

Date: Wed, 28 Apr 93 19:28:51 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #513  
To: Info-Hams

Info-Hams Digest                      Wed, 28 Apr 93                      Volume 93 : Issue 513

Today's Topics:

                  "Busting" Jammers  
                  Another AM Question (3 msgs)  
                  Envelope Modulation  
Fast connect/disconnect (in/out) mobile rigs?  
Feedback needed, Outbacker or Isolooop users  
                  ferrite bead baluns  
                  Helical filters for HT's  
Measuring SWR on Open Wire  
                  no-code defense  
Thanks net & intermod question

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Wed, 28 Apr 1993 18:41:37 GMT  
From: mentor.cc.purdue.edu!noose.ecn.purdue.edu!dynamo.ecn.purdue.edu!  
wb9omc@purdue.edu  
Subject: "Busting" Jammers  
To: info-hams@ucsd.edu

obrien@Aero.org (Michael O'Brien) writes:  
>is still blaring away. All the documentation and cooperation with the ARRL you  
>could ask for still hasn't done a thing. It would seem that the only remaining  
>possibility is a phone call from a Congresscritter.  
>--

ABSOLUTELY contact your congresscritter. There are quite a few that

are highly sympathetic to Amateur Radio - if you are fortunate enough to have one of those, you just might stand a pretty good chance of getting something accomplished.

We don't get to vote on FCC personnel, so they don't feel like they are responsible to anyone other than their immediate supervisors.

On the other hand, a congresscritter is supposed to be OUR employee - and sometimes they need to be reminded of that - and usually a GOOD congresscritter has a staff that is mindful of that.

Go for it!

Duane  
WB9OMC

-----  
Date: Wed, 28 Apr 1993 18:55:39 GMT  
From: mvb.saic.com!unogate!news.service.uci.edu!usc!sdd.hp.com!hpscit.sc.hp.com!  
icon.rose.hp.com!lkraft@network.UCSD.EDU  
Subject: Another AM Question  
To: info-hams@ucsd.edu

Hello gang,

A colleague and I were pondering this scenario:

Suppose you generate a single carrier signal with no modulation, and feed this up to your x-element beam. So far, you are radiating a signal that has zero bandwidth in some fixed direction. OK, now say you rotate your antenna at a rate of, say, 1000 revolutions per second. To a distant observer, will this signal now appear to have sidebands spaced 1 KHz away from the carrier since he now only sees a carrier that "bursts" at a 1KHz rate? Remember, we are still only generating a single, unmodulated carrier. Are the "sidebands" a figment of the receiver?

Just curious....

73,  
L

=====  
#####  
##### / \_ \_ #####  
##### / / \_/ #####  
Lyle Kraft AA6LK  
Hewlett-Packard  
System Interconnect Lab -  
Information Networks Division

##### / ##### Roseville, CA 95747  
##### 916-785-5798  
##### lkraft@core.rose.hp.com

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Date: Wed, 28 Apr 1993 21:16:05 GMT  
From: usc!sdd.hp.com!hpscit.sc.hp.com!icon.rose.hp.com!lkraft@network.UCSD.EDU  
Subject: Another AM Question  
To: info-hams@ucsd.edu

Alan Bloom (alanb@sr.hp.com) wrote:

: >Lyle Kraft (lkraft@core.rose.hp.com) wrote:

: >: Hello gang,

: >

: >: A colleague and I were pondering this scenario:

: >

: >: Suppose you generate a single carrier signal with no modulation, and  
: >: feed this up to your x-element beam. So far, you are radiating a  
: >: signal that has zero bandwidth in some fixed direction. OK, now  
: >: say you rotate your antenna at a rate of, say, 1000 revolutions per  
: >: second. To a distant observer, will this signal now appear to have  
: >: sidebands spaced 1 KHz away from the carrier since he now only sees  
: >: a carrier that "bursts" at a 1KHz rate?

: >

: >Yes

: >

: >: Remember, we are still only  
: >: generating a single, unmodulated carrier. Are the "sidebands" a  
: >: figment of the receiver?

: >

: >No, they are really there. It doesn't matter how you modulate the carrier,  
: >you can't have modulation without generating sidebands. You'd get the  
: >same effect by transmitting an unmodulated carrier and quickly switching  
: >the antenna in and out at a 1 kHz rate. (For as long as the transmitter  
: >stayed alive!)

: >

: >AL N1AL

: >

As far as who sees these sidebands, let me modify the scenario. Say you now have an airborne receiver that circles the transmitting antenna in sync with the beam. Does the flying receiver see these sidebands (assuming the receiver sees no change in amplitude during the trip around)? I don't believe so, but a fixed observer will see the modulation. I'm just curious as to whether it's something that is created as part of the detection process, or do these

sidebands accompany the carrier to the far regions of space (in a huge rotating disk pattern).

L

-----  
Date: Wed, 28 Apr 1993 20:33:36 GMT  
From: usc!howland.reston.ans.net!darwin.sura.net!sgiblab!pacbell.com!unet!pioneer!  
rmt@network.UCSD.EDU  
Subject: Another AM Question  
To: info-hams@ucsd.edu

In article <C67J8s.Duw@icon.rose.hp.com> lkraft@core.rose.hp.com (Lyle Kraft) writes:

> Hello gang,  
>  
> A colleague and I were pondering this scenario:  
>  
> Suppose you generate a single carrier signal with no modulation, and  
> feed this up to your x-element beam. So far, you are radiating a  
> signal that has zero bandwidth in some fixed direction. OK, now  
> say you rotate your antenna at a rate of, say, 1000 revolutions per  
> second. To a distant observer, will this signal now appear to have  
> sidebands spaced 1 KHz away from the carrier since he now only sees  
> a carrier that "bursts" at a 1KHz rate? Remember, we are still only  
> generating a single, unmodulated carrier. Are the "sidebands" a  
> figment of the receiver?  
>  
> Just curious....  
>

This is actually done for VOR aircraft navigation stations (the older ones anyway). The antenna pattern revolved at a 30 Hz rate. The phase reference signal came from a 9960 Hz am tone that was FM'd at a 30 Hz rate. The modulation percentage was 30% fm subcarrier, 30 % antenna modulation, and 30-40% voice.

Rich Tweedie  
K6VKT

-----  
Date: 28 Apr 93 18:08:58 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Envelope Modulation  
To: info-hams@ucsd.edu

Bob Myers KC0EW said of high level modulation:

This technique is used because it permits the final stage to run in class C, which is much more efficient than either the class A or AB "push-pull" required of a "linear" amplifier (which you would have to use to amplify an RF signal which had already been amplitude modulated). SSB transmitters are forced to use linear output stages, since it would be extremely difficult to generate an SSB signal by modulating the final.

I say:

Check back to the old books, when crystal filters were new and really expensive and phasing (and 3rd or Weaver method) has only just been invented. Linear amplifiers were a whole new technology too!

There are four methods used to generate SSB:

- 1) envelope following
- 2) filtering out one sideband
- 3) regular phasing method
- 4) Weaver method

People used to generate SSB by using high level AM modulation of a class C final (a well known technology) which was driven by an FM modulated carrier. My memory of the details are murky. I think you have to get the level and the modulation index right to get this to work but it was used!

For more info check out the SSB special issue in Proc IRE 1956. This issue also has a couple of other interesting papers -- Weaver outlines the Third method for generating SSB and Costas warns against narrow band techniques (shows how DSB can be very effective and points the way to spread spectrum!).

Also around that time there was a note published on single sideband FM (!). Having a single sideband is just a property of the modulation technique. What we call SSB is a single AM generated sideband. This method gave you half a regular FM spectrum. Unfortunately it doesn't seem to have any advantages (all the disadvantages of FM (poor weak signal performance) mixed with the disadvantages of regular SSB (frequency precision required)).

I have often wondered if this method could be used to make higher efficiency QRP SSB rigs with modern components (VMOS FETs and ICs). The technique may be worth revisiting even if only to play with!

Kevin Purcell N7WIM / G8UDP  
a-kevinp@microsoft.com

"We conjure the spirits of the computer with our spells"

-----  
Date: Wed, 28 Apr 1993 00:48:56 EST  
From: anomaly.sbs.com!n1mpq!news@uunet.uu.net  
Subject: Fast connect/disconnect (in/out) mobile rigs?  
To: info-hams@ucsd.edu

fred-mckenzie@ksc.nasa.gov (Fred McKenzie) writes:

```
> In article <fred-mckenzie-270493095605@k4dii.ksc.nasa.gov>,  
> fred-mckenzie@ksc.nasa.gov (Fred McKenzie) wrote:  
>> Look for a mobile MOUNT that offers the quick-disconnect capability. Some  
>> radios may have such a mounting bracket available as an option, but you may  
>> also find what you want as in generic.  
>  
> I just came across a CB "slide mount" in the '93 Radio Shack catalog (page  
> 26). Catalog number 21-566 sells for $17.95. It doesn't say whether or  
> not the Coax is carried through, but I suspect it is. Just buy two: one  
> for the house and one for the car!  
>  
> 73, Fred, K4DII
```

But don't use that coax connector, it's lossy as all hell. You're best off to remove it and replace it with more line to handle power. I used to use one on my FT-2400.

Tony

```
-----  
-- Anthony S. Pelliccio, kd1nr/ae      // Yes, you read it right, the //  
-- system @ garlic.sbs.com           // man who went from No-Code //  
-----// (Thhhpppt!) to Extra in //  
-- Flame Retardent Sysadmin          // exactly one year! //  
-----  
-- This is a calm .sig! --  
-----
```

-----  
Date: 28 Apr 93 23:35:47 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Feedback needed, Outbacker or Isoloop users  
To: info-hams@ucsd.edu

Hello All,  
I am looking for some info, success stories, not so success stories  
or just some general feedback from some people who have used or are

using the Outbacker or Isolooop HF antennas. I guess mainly the Outbacker but both are a consideration. I am very limited with space so a small multiband type antenna is gonna have to be the choice.

Thanks in advance for your replies...

73 ... Todd Spicer                      wf9s@pgd.adp.wisc.edu

-----  
Date: Wed, 28 Apr 1993 17:57:32 GMT  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!noc.near.net!  
squam.banyan.com!banyan.com!dts@network.UCSD.EDU  
Subject: ferrite bead baluns  
To: info-hams@ucsd.edu

In article <1rk9h6INN7lp@master.cs.rose-hulman.edu>, derry@NeXTwork.Rose-Hulman.Edu (John Derry) writes:

|>  
|> If I were to make a balun by slipping a bunch of ferrite beads over a  
|> piece of coax (RG-58, RG-8), how many of what kind of bead should I use and  
|> where can they be bought? Frequency coverage is 20, 17, 15, 12, and 10  
|> meters.  
|>

Use mix 77 for HF frequencies and you should have good results. If you do not already have an Amidon catalog, I would recommend getting one. It contains all kinds of useful information about the different kinds of materials. (see any radio mag. for an Amidon advertisement).

Baluns formed this way work quite well. I have several in use.

73,

Dan

--

-----  
Daniel Senie                      Internet:        dts@banyan.com  
Banyan Systems, Inc.            Compuserve:    74176,1347  
508-898-1188                    Packet Radio: N1JEB@WA1PHY.MA

-----  
Date: Wed, 28 Apr 1993 19:37:43 GMT  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!torn!nott!  
bnrgate!corpgate!crchh327!crchh7b0!debaker@network.UCSD.EDU  
Subject: Helical filters for HT's

To: info-hams@ucsd.edu

I am looking for some information about filters for my HT.

I have a TH-78A, and when using the unit mobil, the front end is frequently blown away by intermod. Sometimes it is soo bad I cannot hear the repeaters at all. I have heard of helical filters for HT's, perhaps as part of an amplifier package such as rfconcepts produces.

Does anyone have any advice or recommendations about filters/amps/etc that would improve the selectivity of my HT?

Thanks,

David Baker  
KB5ZAW /AA

-----  
Date: Wed, 28 Apr 1993 20:27:08 GMT  
From: usc!howland.reston.ans.net!darwin.sura.net!sgiblab!pacbell.com!unet!pioneer!  
rmt@network.UCSD.EDU  
Subject: Measuring SWR on Open Wire  
To: info-hams@ucsd.edu

In article <1993Apr28.134050.14050@udel.edu> hanavin@huey.udel.edu (Chuck Hanavin) writes:

>  
>For a field theory experiment, we would like to measure the  
>SWR on a 30 foot section of open wire line.  
>We are using a frequency of 146.00 Mhz  
> The open wire  
>line has 9cm spacing with air dielectric, giving roughly  
>a 540 ohm impeadance. We were hoping to terminate it with  
>a 540 ohm resistor, and using a field strength meter to measure  
>the voltage maxs and mins along the line. Theory says, the  
>electric field should be relatively constant along the line with  
>the matched load, but we are seeing large variations of field  
>strength along the line. Hooking a SWR bride between the  
>transmitter and line shows about 1.2 to 1 SWR  
>  
>Does anybody have any suggestions on how to do this?  
>

Making some assumptions here (Like you are using a 50 ohm unbalanced SWR bridge feeding into a matcher or balun). If that is the case, then you can have high SWR on the balanced portion that still matches



Rich Tweedie  
K6VKT

>

> And to the no-code technicians out there, don't let these blow hards  
> turn you off. Not all morse impaired individuals have KD1NR's

> attitude. You can actually meet some nice hams in the CW portions of  
> the bands. :-)

But... you must have passed at least 1A to get on CW on any portions of  
the HF bands. Simple as that. I will say one thing, I enjoy the bottom  
25 kc's of the bands because it's not as congested. If we start fucking  
with the code requirements, it's gonna be a free-for-all down there and  
that's not something I want, having worked to gain an Extra class  
ticket.

And btw, if you happen to be a no-code and are offended by my  
attitude... well there are two words for you....

...- .- -.- -.- -.- -.- -.-

> 73,  
> Todd  
> N9MWB

Nah... FOAD again dude.

> PS To the non-clueless, forgive the post here, but my news reader won't  
> let me follow up to another group, sigh.

Hah... too bad.

Tony

```
-----  
-- Anthony S. Pelliccio, kd1nr/ae      // Yes, you read it right, the //  
-- system @ garlic.sbs.com             // man who went from No-Code  //  
-----// (Thhhppptt!) to Extra in      //  
-- Flame Retardent Sysadmin           // exactly one year!          //  
-----
```

-- This is a calm .sig! --  
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-----  
  
Date: 28 Apr 1993 11:42:59 -0700  
From: sdd.hp.com!nobody@decwrl.dec.com  
Subject: Thanks net & intermod question  
To: info-hams@ucsd.edu

Well. I posted a few days ago about my wife Carolyn and I passing  
our nocode tests. I have received many replies. The net has made  
me feel very welcome, so thanks you guys.

I also asked about some mail order places. I got a few names and numbers, made a few calls, and here's what I found out:

Name	Phone	TH78	DJ-580
Oklahoma Communicatins Center	800 765-4267	Don't carry	\$368
Satellite City	800 426-2891	\$444.44	\$389.95
Electronics Specialists	800 688-0073	\$459.95	\$409.95
Burghardt Amateur Center	800 927-4261	\$459.95	\$389.95
Barry Electronics	212 925-7000	\$599(!)	Didn't ask...
Henry Radio	800 877-7979	Got lost in voicemail	

I have another question: has anyone experienced particlarly good or bad intermod performance with their dualband HT's?

The guy at Oklahoma Communications Center claims that the TH78 has worse intermod problems than other HTs. A guy I talked to at HRO says that they all have problems and are about the same.

Does anyone have any experience to bakc up either of these views?

Thanks!

--

Craig Bosworth (619) 592-8609  
Hewlett-Packard, San Diego Division  
craigb@sdd.hp.com

-----  
Date: Wed, 28 Apr 1993 00:58:42 EST  
From: anomaly.sbs.com!n1mpq!news@uunet.uu.net  
To: info-hams@ucsd.edu

References <930425.131406.1I8.rusnews.w165w@garlic.sbs.com>,  
<1993Apr26.223231.16356@en.ecn.purdue.edu>,  
<1993Apr27.112119.10094@anomaly.sbs.com>  
Subject : Re: no-code defense

kd1hz@anomaly.sbs.com (Rev. Michael P. Deignan) writes:

> Of course, when someone explained that the no-code license would mean more  
> subscriptions, more book sales, and more advertising dollars from  
> manufacturers seeking to sell items to those no-coders, suddenly the

> no-code license became "a good thing" and was needed "to save ham radio".  
>  
> Uh-huh. Can you say "pay off" people. Good, I knew you could.

More like sacrifice quantity for quality.

```
-----  
-- Anthony S. Pelliccio, kd1nr/ae      // Yes, you read it right, the //  
-- system @ garlic.sbs.com           // man who went from No-Code //  
-----// (Thhhppptt!) to Extra in //  
-- Flame Retardent Sysadmin          // exactly one year! //  
-----  
-- This is a calm .sig! --  
-----
```

-----  
Date: 28 Apr 1993 18:50:12 GMT  
From: lll-winken.llnl.gov!nirvana.llnl.gov!user@ames.arpa  
To: info-hams@ucsd.edu

References <16BB5F30F.97994779@wsuvm1.csc.wsu.edu>,  
<BAT.93Apr20084203@gdstech.GRUMMAN.COM>, <1993Apr26.185220.8665@mixcom.mixcom.com>  
Subject : Re: Fast connect/disconnect (in/out) mobile rigs?

> > I agree. I'm beating the hell out of my Alinco DJ580's connector.  
>

> Kevin Jessup, N9SQB

I use a 90 degree BNC connector on my HT (DJ580) that way the  
connector/adaptor takes the abuse not the BNC connector on the radio.

```
*****  
Dave Parker  
davep@llnl.gov  
KD6RRS  
*****
```

-----  
Date: Wed, 28 Apr 1993 00:47:19 EST  
From: anomaly.sbs.com!n1mpq!news@uunet.uu.net  
To: info-hams@ucsd.edu

References <16BB5F30F.97994779@wsuvm1.csc.wsu.edu>,  
<BAT.93Apr20084203@gdstech.GRUMMAN.COM>, <1993Apr26.185220.8665@mixcom.mixcom.com>

Subject : Re: Fast connect/disconnect (in/out) mobile rigs?

mei.mon <mei.mon@mixcom.mixcom.com> writes:

> I agree. I'm beating the hell out of my Alinco DJ580's connector.  
>  
> Unfortunately, I do not (yet) live in the affluent low crime rate suburbs.  
> So theft is a concern of mine. Which is why I started with an HT.  
>  
> Are there any quick connect/disconnect mobile rigs (2 meter or dual band)  
> available? I'm thinking of something where the entire unit (not just the  
> front panel) slides in or out of a chassis which automatically makes/breaks  
> the power AND antenna connections. I would like to be able to just grab  
> hold of the unit and pull. A neat feature would be a similar "back plane"  
> in my condo that I could then slide it into when I get home! Any one  
> make such a rig?

Check out the Yaesu FT-5100... the mounting bracket on the radio is a clip-on deal that you can leave in the car and the radio snaps right out. Plus the power connector is easy to work with.

Tony

```
-----  
-- Anthony S. Pelliccio, kd1nr/ae      // Yes, you read it right, the //  
-- system @ garlic.sbs.com            // man who went from No-Code //  
-----// (Thhhppptt!) to Extra in    //  
-- Flame Retardent Sysadmin          // exactly one year!         //  
-----  
-- This is a calm .sig! --  
-----
```

Date: 28 Apr 1993 15:25:27 GMT  
From: sun-barr!west.West.Sun.COM!sunburn.Corp.Sun.COM!flloyd@decwrl.dec.com  
To: info-hams@ucsd.edu

References <C5qurA.6wr@feenix.metronet.com>,  
<C5uzJ6.HMt@murdoch.acc.Virginia.EDU>, <1993Apr27.220044.221@sfpp.com>  
Subject : Re: Cable TV Descrambler Sources?

In article <1993Apr27.220044.221@sfpp.com> longo@sfpp.com (Bob Longo) writes:  
>>  
>> It is legal to buy a descrambler, but extremely ILLEGAL to connect it  
>> to your cable service! Cable companies are vigorously seeking out and  
>> prosecuting all offenders, so beware!  
>>

>> Jon

>--

>

>I have always been curious - other than by SEEING the box, can they really  
>tell? I've heard stories ranging from them connecting something to the cable  
>that can detect bootleg boxes to vans driving down the street equipped with  
>spectrum analyzers to sting operations where they broadcast a bogus offer for  
>something free on a channel that would otherwise be encrypted and wait and see  
>who calls. Is any of this true (except for the sting, which they actually did  
>in New York)?

>

>-Bob Longo

The typical TV set emits a startling amount of radiation. A properly tuned receiver can pick up the set's horizontal sweep frequency, and can even "hear" what sort of picture is being shown. Look at it like this: A typical color set is modulating an electron beam aimed at the screen which has something in excess of 15,000 volts pulling it. Since there's no metal shield in front of the tube, it stands to reason that some radio waves are being emitted from this high frequency, high voltage beam. The frequency of this modulation can go as high as 6 megahertz.

Suffice to reiterate that a properly tuned receiver with an antenna pointing towards your house can "see" the same picture you can. Spies can do the same thing to see what's being displayed on the enemy's computer terminals...

There is also a minute amount of radiation emitted from the LO (Local oscillator) of the cable tuner box. This can also be used to determine which channel you're watching.

-fred

--

[ Fred Lloyd, AA7BQ	Fred.Lloyd@West.Sun.COM ]
[ Sun Microsystems,	Southwest Area Solaris Transition Manager ]
[ Phoenix, AZ	(602) 224-3517 ]

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End of Info-Hams Digest V93 #513

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